

## New England Biolabs Product Specification

*Product Name:*  $\Phi$ X174 RF II DNA  
*Catalog #:* N3022S/L  
*Concentration:* 1,000  $\mu$ g/ml  
*Unit Definition:* N/A  
*Shelf Life:* 24 months  
*Storage Temp:* -20°C  
*Storage Conditions:* 10 mM Tris-HCl (pH 8.0), 1 mM EDTA  
*Specification Version:* PS-N3022S/L v1.0  
*Effective Date:* 07 Jul 2014

### Assay Name/Specification (minimum release criteria)

**A260/A280 Assay** - The ratio of UV absorption of  $\Phi$ X174 RF II DNA at 260 and 280 nm is between 1.8 and 2.0.

**DNA Concentration (A260)** - The concentration of  $\Phi$ X174 RF II DNA is between 1000 and 1050  $\mu$ g/ml as determined by UV absorption at 260 nm.

**Electrophoretic Pattern (Plasmid)** - The banding pattern of  $\Phi$ X174 RF II DNA on a 1.2% agarose gel is evaluated against a control lot for sharpness and relative intensity as determined by gel electrophoresis using Ethidium Bromide.

**Non-Specific DNase Activity (DNA, 16 hour)** - A 50  $\mu$ l reaction in 1X NEBuffer 2 containing 5  $\mu$ g of  $\Phi$ X174 RF II DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**Restriction Digest (Linearization)** - A 50  $\mu$ l reaction in CutSmart™ Buffer containing 5  $\mu$ g of  $\Phi$ X174 RF II DNA DNA and 20 units of XhoI incubated for 1 hour at 37°C produces > 95% linearization resulting in a single band of approximately 5386 bp as determined by agarose gel electrophoresis.



Derek Robinson  
Director of Quality Control

Date 07 Jul 2014

